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Winter 1-30-2020

### TSSA Report\_Winter 2020

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#### Recommended Citation

Nazzal, Lamies, "TSSA Report\_Winter 2020" (2020). *Teaching Skills Study Awards (TSSA) Reports*. 151. <https://scholarworks.lib.csusb.edu/trc-tssa/151>

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**Term/Year of Award:** Winter/2020

**Conference attended:** Joint Mathematics Meetings; Denver, January 15 - 18, 2020

### **Teaching Skill(s) Studied**

I've attended sessions/presentations on *best practices and considerations in designing and developing math courses*, sessions on *ideas and innovations in teaching*, and sessions on *inquiry-based learning and teaching*. Here is a list of the titles of some of the sessions/presentations I attended:

- *Mathematics Stretch Courses as an Alternative to Remedial Mathematics Classes*
- Unleashing Creativity in 100 math class
- Creative Problem Solvers
- A Framework for Equitable Math Instruction
- When Novel Instructional Practices Go To Scale: A Case Study

*Teaching Skills Practices* learned included:

- Success and challenges during the implementation of stretch courses.
- The effectiveness of Corequisite Instruction (as it has become the dominant approach to serving students deemed to need remediation in introductory college math courses).
- Ways to teach math classes in a way that provides space for students to be creative, make conjectures, engage, and arrive at conclusions. I was particularly interested in this way since I always try to tell my students in all of my classes that math is really important and applicable; we use math to **model the world** around us. This view of math (and way of teaching it) provides the flexibility for us as instructors to help students extract math from their own lives, which will make mathematics applicable to students and eventually this will change student perceptions of math.
- Ways to develop courses that enable creative problem solving through class instruction, during class activities, during out of class assessments, and during in-class assessments. Studies showed that a combination of these elements within a course structure increases student's creative problem-solving abilities.

### **Impact on Current Teaching (How was this info applied)**

As the coordinator of college algebra and pre-calculus courses, learning about new practices and considerations in math stretch courses is helping me evaluate our College Algebra Stretch Courses and learn about different ways of offering corequisite

instruction to improve our Math Support Labs to better serve students deemed to need remediation in introductory college math courses.

Learning about new research-based teaching practices is helping me to continue working on creating active-learning environments in my classrooms, where my students can learn to be independent learners. It is also helping me to keep challenging my students by providing them with a blend of experiences to help them grow as creative problem solvers; that is, by enabling creative problem solving through class instruction, during class activities, during out of class assessments, and during in-class assessments. Furthermore, being the coordinator of college algebra and pre-calculus courses, I've shared these best teaching practices with the instructors during our professional development meetings that I hold every other Friday, which, I hope, will help these instructors to keep improving their teaching practices to better serve our students.

### **Assessment/Evaluation**

One way to assess/evaluate the effectiveness of such practices is to compare students performance and final grades to previous years. We can also look at data from IR on the pathways of students in their subsequent classes (such as Math 120, Chem 215). I also plan to keep getting instructors' feedback.

Date: 2-12-2020